

# WISCONSIN FOREST MANAGEMENT GUIDELINES

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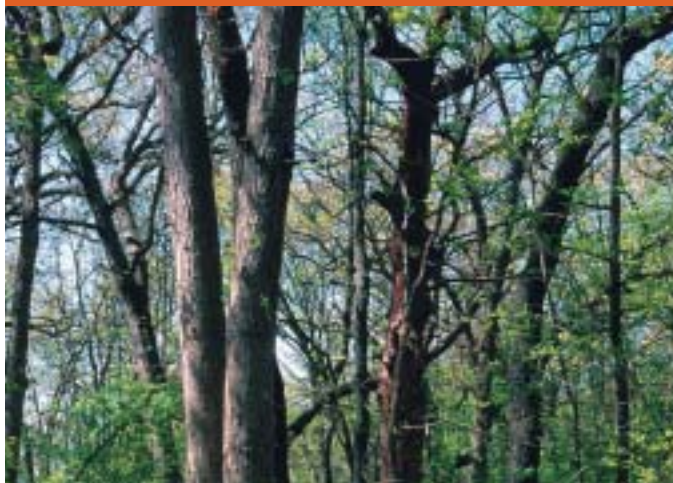


## Glossary



## GLOSSARY

Forest Cover Type



Riparian Management Zone



Harvesting



Wetland





## A

**ANGLE OF REPOSE**

The maximum slope or angle at which a material, such as soil or loose rock, remains stable (stable angle).

**ARCHAEOLOGICAL SITE**

A geographic location where archaeological artifacts, features and other materials are found.

## B

**BANK**

The land surface abutting the bed of any navigable waterway which, either prior to any project or alterations of land contours, or as the result of the proposed project or alteration, slopes or drains without complete interruption into the waterway (NR 340.02(2)).

**BASAL AREA (BMPs for Water Quality Definition)**

The cross-sectional area four and one-half feet above ground in square feet of all trees with a diameter of five inches or greater.

**BASAL AREA (Forestry Definition)**

1. The cross-sectional area of a single stem, including bark, measured at breast height (four and one-half feet above ground).
2. The cross-sectional area of all stems in a stand expressed per unit of land area.

**BASEFLOW**

The portion of streamflow which comes from groundwater.

**BEST MANAGEMENT PRACTICES (BMPs)**

Practical and economically-achievable practices for preventing or reducing nonpoint source pollution.

**BIOLOGICAL DIVERSITY (Biodiversity)**

The spectrum of life forms and ecological processes that support and sustain them. Biodiversity occurs at four interacting levels: genetic, species, community, and ecosystem.

**BOARD FOOT**

The amount of wood contained in an unfinished board one inch thick, 12 inches long, and 12 inches wide.

**BROAD-BASED DIP**

A surface drainage structure specifically designed to drain water from an access road while vehicles maintain normal travel speeds.

**BRUSH BARRIER**

A sediment control structure created of slash materials, piled at the top slope of a road or at the outlets of culverts, turnouts, dips, and waterbars.

**BUFFER AREA**

A designated area around a stream or waterbody of sufficient width to minimize entrance of forestry chemicals (fertilizers, pesticides, and fire retardants) into the waterbody.

## C

**CAVITY TREE**

A hollow tree used for the roosting and reproduction of wildlife.

**CHECK DAM**

A small dam constructed in a gully to decrease the flow velocity, minimize channel scour, and promote deposition of sediment.

**CLEARCUTTING**

A silvicultural system in which all merchantable trees are harvested within a specified area in one operation to create an even-aged stand.

**CLIMAX FOREST**

An ecological community that represents the culminating stage of a natural forest succession for its locality and environment.

**COARSE WOODY DEBRIS**

Stumps and fallen trunks or limbs of more than six-inch diameter at the large end.

**CO-DOMINANT TREE**

A tree whose crown helps to form the general level of the main canopy in even-aged stands, or, in uneven-aged stands, the main canopy of the tree's immediate neighbors, receiving full sunlight from above and comparatively little from the sides.

**COMMUNITY**

An assemblage of plants and animals living together and occupying a given area.

**CONTOUR**

An imaginary line on the surface of the earth connecting points of the same elevation. It also applies to a line drawn on a map connecting the points of the same elevation. The steeper the slope, the closer the contour lines will be.

**CORD**

A stack of wood that measures 4 feet x 4 feet x 8 feet (128 cubic feet).

**CORDUROY**

Logs placed over a wetland to reinforce the natural root mat for the purpose of stabilizing the road foundation.

**CROWN (BMPs for Water Quality Definition)**

A convex road surface that allows runoff to drain to either side of the road prism.

**CROWN (Forestry Definition)**

The part of a tree bearing live branches and foliage.

**CROWN CLASS**

A category of tree based on its crown position relative to those of adjacent trees.

**CULL**

Any item of production (e.g., tree, log, lumber, seedling) rejected because it does not contain certain specifications of usability or grade.

**CULTURAL RESOURCE**

An archaeological site, cemetery, historic structure, historic area, or traditional-use area that is of cultural or scientific value.

**CULVERT**

A metal, wooden, plastic or concrete conduit through which water can flow under or across roads.

**CUMULATIVE EFFECT**

The impact on the environment that results from the incremental impact of an action when added to other past, present, and reasonably foreseeable future actions regardless of what agency or person undertakes such action.

**CUT-AND-FILL**

Earth-moving process that entails excavating part of an area and then using the excavated material for adjacent embankments or fill areas.

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**D**
**DIAMETER (AT) BREAST HEIGHT (DBH)**

The diameter of the bole of a tree measured at 4.5 feet (1.37 meters) from the ground.

**DISKING (Harrowing)**

A mechanical method of scarifying the soil to reduce competing vegetation and prepare a site to be seeded or planted.

**DOMINANT CROWN CLASS**

A tree whose crown extends above the general level of the main canopy, receiving full light from above and partial light from the sides.

**DRAINAGE STRUCTURE**

Any device or land form constructed to intercept or aid surfacewater drainage.

**DUFF**

The accumulations of needles, leaves and decaying matter on the forest floor.

## E

**ECOSYSTEM**

A spatially-explicit, relatively homogeneous unit of the earth that includes all interacting organisms and components of the abiotic environment within its boundaries.

**ENDANGERED SPECIES**

A species threatened with extinction throughout all or a significant portion of its range.

**ENVIRONMENT**

The sum of all external conditions affecting the life, development and survival of an organism.

**ERODIBLE SOILS**

Soils that are likely to have high soil loss when exposed to water runoff. Soils having a Natural Resources and Conservation Service (NRCS) erosion hazard rating of “moderate” or “severe” should be considered erodible. Erosion hazard ratings for different soil types are listed in “Woodland Suitability” tables in NRCS soil survey manuals. Generally, forest soils occurring on 15 to 35 percent slopes have a moderate rating, and soils occurring on greater than 35 percent slopes have a severe rating. Contact your local NRCS office for more information.

**EROSION**

The process by which the surface of the earth is worn away by the action of wind or water in the form of rain drops, surface runoff or waves.

## F

**FELLING**

The process of cutting down standing trees.

**FILL SLOPE**

The surface formed where earth is deposited to build a road or trail.

**FIRE RETARDANT**

Any substance, except plain water, that by chemical or physical action reduces the flammability of fuels or slows their combustion rate.

**FIREBREAK**

Naturally-occurring or human-made barrier to the spread of fire.

**FIRELINE**

A barrier used to stop the spread of fire constructed by removing fuel or rendering fuel less flammable by use of retardants.

**FLOODPLAIN**

Land which has been or may be covered by flood water during the regional floods (floods expected to occur once in every 100 years).

**FORD**

Submerged stream crossing where the streambed may need to be reinforced to bear intended traffic.

**FOREST COVER TYPE**

1. A category of forest usually defined by its vegetation, particularly its dominant vegetation as based on percentage cover of trees.
2. The plant species forming a plurality of composition across a given area.

**FOREST FILTER STRIP**

Area between a stream and construction activities that achieves sediment control by using the natural filtering capabilities of the forest floor and litter.

**FOREST HEALTH**

The perceived condition of a forest derived from concerns about such factors as its age, structure, composition, function, vigor, presence of unusual levels of insects or disease, and resilience to disturbance.

**FOREST MANAGEMENT**

The practical application of biological, physical, quantitative, managerial, economic, social, and policy principles to the regeneration, management, utilization, and conservation of forests to meet specified goals and objectives while maintaining the productivity of the forest.



**FOREST ROAD**

A temporary or permanent road connecting the most remote parts of the forest to existing public roads. They provide access to forestlands for timber management, fish and wildlife habitat improvement, fire control and a variety of recreational activities.

**FORWARDING**

The operation of moving timber products from the stump to a landing for further transport.

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**G**


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**GEOTEXTILE**

A product used as a soil reinforcement agent and as a filter medium. It is made of synthetic fibers manufactured in a woven or loose non-woven manner to form a blanket-like product.

**GRADE (Gradient)**

The slope of a road or trail expressed as a percent of change in elevation per unit of distance traveled.

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**H**


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**HABITAT**

1. A unit area of environment.
2. The place where an animal, plant or population naturally or normally lives and develops.

**HABITAT TYPE**

1. A land or aquatic unit consisting of an aggregation of habitats having equivalent structure, function and responses to disturbance.
2. An aggregation of units of land capable of producing similar plant communities at climax.

**HABITAT TYPE CLASSIFICATION SYSTEM**

A site classification system based on the floristic composition of plant communities. The system depends on the identification of potential climax associations, repeatable patterns in the composition of the understory vegetation, and differential understory species. It groups land units with similar capacity to produce vegetation. The floristic composition of the plant community is used as an integrated indicator of those environmental factors that affect species reproduction, growth, competition, and community development. A system used to classify forest plant communities and the sites on which they develop.

**HARVESTING (Logging)**

The process of gathering a timber crop. It includes felling, skidding/forwarding, on-site processing, and removal of products from the site.

**HIGH-WATER MARK**

See "ORDINARY HIGH-WATER MARK."

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**I**


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**INTEGRATED PEST MANAGEMENT (IPM)**

Selection, integration and use of management actions based on scientific knowledge of forest systems, including insects and pathogens, in order to achieve desirable economic, ecological and sociological forest management goals.

**INTERMITTENT STREAM**

A stream that flows only after rainfall or snowmelt, and, therefore, is dry most of the year.

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**L**


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**LAKE**

A still waterbody which (1) is navigable, (2) has an ordinary high-water mark and (3) has a bed and banks and is a "reasonably permanent" body of water although it may dry up during periods of drought.

**LANDING (Log Deck)**

A place where trees and logs are gathered in or near the forest for further processing or transport.

**LARGE WOODY DEBRIS (BMPs for Water Quality)**

Large logs, generally at least 12 inches in diameter with an anchored root ball, that have fallen into streams creating stable structures and a diversity of cover conditions and habitat for aquatic organisms.

**LEAVE TREES**

See "RESERVE TREES."

**LOGGING DEBRIS**

See "SLASH."

**LUMP SUM SALE**

A timber sale in which the buyer and seller agree on a total price for marked standing trees, or for trees within a defined area before the wood is removed.

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**M**
**MANAGEMENT GOAL**

A broad, general statement (usually not quantifiable) that expresses a desired state or process to be achieved.

**MANAGEMENT OBJECTIVE**

A concise, time-specific statement of measurable planned results that correspond to pre-established goals in achieving a desired outcome.

**MANAGEMENT PRESCRIPTION**

A set of management practices and intensities scheduled for application on a specific area to satisfy multiple goals and objectives.

**MERCHANTABILITY**

Trees of size and quality suitable for commercial marketing and utilization.

**MULCH**

A natural or artificial layer of plant residue or other materials covering the land surface that conserves moisture, holds soil in place, aids in establishing plant cover, and minimizes temperature fluctuations.

**MULCHING**

Providing any loose covering to protect exposed forest soils such as grass, straw, bark, or wood fibers, to help control erosion.

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**N**
**NAVIGABLE**

A waterway is navigable if it has bed and banks, and it is possible to float a canoe or other small craft in the waterway on a regular reoccurring basis – even if only during spring runoff.

**NON-NATIVE INVASIVE SPECIES**

Plant species accidentally or intentionally introduced from another country or geographic region, having the ability to significantly displace desirable vegetation or reduce crop yields. These plants may also be termed "exotic," "alien," or "weedy." They are likely to cause economic or environmental harm, or harm to human health.

**NONPOINT SOURCE POLLUTION**

Occurs when rainfall or snowmelt runoff moves across the ground, carrying pollutants into streams, lakes, wetlands, and groundwater. For example, soil can become a pollutant when water runoff moves across a road and carries large amounts of soil into a waterbody.

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**O**
**OPERABILITY**

Level of merchantable volume per acre.

**ORDINARY HIGH-WATER MARK**

The point on the bank or shore up to which the presence and action of the water is so continuous as to leave a distinct mark either by erosion, destruction of terrestrial vegetation, or other easily-recognized characteristic.

**ORGANIC DEBRIS**

Particles of vegetation or other biological material that can degrade water quality by decreasing dissolved oxygen and by releasing organic solutes during leaching.



**OUTSLOPE**

Shaping the road surface to cause drainage to flow toward the outside shoulder.

**OVER MATURE**

1. A tree or even-aged stand that has reached the stage of development when it is declining in vigor and health, and reaching the end of its natural life span.
2. A tree or even-aged stand that has begun to lessen in commercial value because of size, decay or other factors.

**OVERSTORY**

That portion of the trees in a forest forming the uppermost canopy layer.

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**P**
**PERENNIAL STREAM**

A stream that flows throughout most (i.e., greater than 50 percent) of the year.

**POLETIMBER**

Hardwood trees ranging in size from five to 11 inches DBH, and conifers ranging in size from five to nine inches DBH.

**PRESCRIBED BURNING**

The controlled application of fire to wildland fuels in either their natural or modified state, under specified environmental conditions. These conditions allow the fire to be confined to a predetermined area, while at the same time producing the fire intensity and rate of spread required to attain planned resource management objectives.

**PRIMARY TYPE**

Forest type named after the tree species that is being managed for a harvest cycle, and usually comprises over 50 percent of the stand.

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**R**
**RAKING**

A mechanical method of removing stumps, roots and slash from a future planting site.

**REGIONAL FLOOD**

A flood which is expected to occur on a particular lake, river or stream once every 100 years (also known as a "100-year flood").

**RESERVE TREES**

Scattered, living individual trees and/or groups of trees left unharvested within a stand for reasons other than the purpose of regeneration. Synonyms may include leave trees, green tree retention, and standards.

**RIPARIAN AREA**

The area of land and water forming a transition from aquatic to terrestrial ecosystems along streams, lakes and open water wetlands.

**RIPARIAN MANAGEMENT ZONE (RMZ)**

Land and vegetation areas next to lakes and streams where management practices are modified to protect water quality, fish and other aquatic resources. These areas are complex ecosystems that provide food, habitat and movement corridors for both aquatic (water) and terrestrial (land) communities as well as helping to minimize nonpoint source pollution impacts to surfacewater.

**RIPRAP**

Rock or other large aggregate that is placed to protect streambanks, bridge abutments, outflow of drainage structures, or other erodible sites from runoff or wave action.

**ROTATION**

In even-aged silvicultural systems, the period between regeneration establishment and final cutting. Rotation may be based on many criteria including culmination of mean annual increment, mean size, age, attainment of minimum physical or value growth rate, and biological conditions.

**RUT**

Depressions made by the passage of a vehicle or equipment.

S

SAPLINGS

Trees ranging from one to five inches DBH.

SAWBOLT

A small diameter log that does not meet the minimum specifications for a “sawlog,” but is sorted for sawing rather than being used for chips, pulpwood or fuel. Dimension lumber cut from sawbolts is generally used for low-value products such as 2 inch x 4 inch studs or wood pallets.

SAWLOG

A cut forest product meeting the minimum specifications for “Sawlog - Board Feet” in Chapter NR 46.02 (22), Wisconsin Administrative Rules.

Position in Tree	Butt or upper
Minimum Diameter <sup>1</sup> Small End: Hardwoods	10.6"
Minimum Diameter <sup>1</sup> Small End: Conifers	9.6"
Minimum Length Without Trim <sup>2</sup>	8' (except walnut and cherry which are 4')
Sweep Allowance <sup>3</sup>	___ of diameter small end for each 8' length
Maximum Scale Deduction for Unsound Defects	50%
Clear Cuttings Free of Knots or Other Defects	No requirements.
Sound or Unsound Surface Defect Limitations	Diameter of knots, rot, holes, etc., may not exceed 1/3 the diameter of the log at the point of occurrence.
Sound End Defects	No requirements.

1 Diameter inside bark.  
2 The maximum trim allowance is 8". Cut products that exceed the 8" trim allowance will be classified as misbucked, and will be scaled as sawlogs at the next whole foot increment.  
3 Sweep is defined as the maximum departure distance of a line drawn between the ends of a log from the nearest surface of the log.

SAWTIMBER, LARGE

Standing trees larger than 15 inches in diameter at 4.5 feet above the ground.

SAWTIMBER, SMALL

Standing hardwood trees ranging in size from 11 to 15 inches in diameter at 4.5 feet above the ground, and conifer trees ranging in size from nine to 15 inches in diameter at 4.5 feet above the ground.

SEDIMENT

Soil that has eroded from the land surface, often by overland water flow, that is then transported and deposited away from its original location.

SHEARING

A site preparation method that involves the cutting of brush, trees or other vegetation at ground level using tractors equipped with angled or V-shaped blades.

SILT FENCE

A temporary barrier used to intercept sediment-laden runoff from small areas.

SILVICULTURAL PRESCRIPTION

A planned series of treatments designed to change current stand structure to one that meets management goals and objectives. The prescription normally considers ecological, economic and societal constraints.

SILVICULTURAL SYSTEM

A planned program of vegetative treatment during the entire life of a stand including tending, harvesting and regeneration, which are named after the stand age class structure and regeneration method employed.

SITE

- 1. The total of environmental conditions surrounding and available to a plant. The physical (climate, topography, soil) and biotic (plants, animals) factors interact to yield the light, heat, water, and chemicals that are directly available and used by the plant, as well as other chemical and mechanical disturbance factors.
- 2. The area in which a plant or stand grows, considered in terms of its environment, particularly as this determines the type and quality of the vegetation the area can carry.
- 3. A spatially-explicit, relatively homogeneous portion of land characterized by specific physical and chemical properties that affect ecosystem functions, and where a more or less homogenous forest type may be expected to develop.



**SITE INDEX**

A species-specific measure of actual or potential forest productivity (usually for even-aged stands) expressed in terms of the average height of trees included in a specified stand component (dominants, codominants, or the largest and tallest trees) at a specified index or base age.

**SKID (Skidding)**

Short-distance moving of logs or felled trees from the stump to a point of loading.

**SKID TRAIL**

A temporary, nonstructural travel way for logging equipment, called skidders, to drag felled trees or logs to the landing for further processing, loading and transport to a mill.

**SLASH**

Any tree tops, limbs, bark, abandoned forest products, windfalls, or other debris left on the land after timber or other forest products have been cut.

**SLOPE**

Degree of deviation of a surface from the horizontal, measured as a numerical ratio, percent or in degrees. Expressed as a ratio, the first number is the horizontal distance (run) and the second number is the vertical distance (rise), as 2:1. A 2:1 slope is a 50 percent slope. Expressed in degrees, the slope is the angle from the horizontal plane, with a 90° slope being vertical (maximum) and a 45° slope being a 1:1 slope.

**SNAG**

A standing dead tree.

**STAND**

1. A contiguous group of trees sufficiently uniform in species composition, structure and age class distribution, and growing on a site of sufficient uniform quality, to be a relatively homogeneous and distinguishable unit.
2. A contiguous group of similar plants.

**STAND STRUCTURE**

1. The physical and temporal distribution of plants in a stand.
2. The horizontal and vertical distribution of components of a forest stand including the age, height, diameter, crown layers, and stems of trees, shrubs, herbaceous understory, snags, and down woody debris.

**STREAM**

A watercourse that (1) has an ordinary high-water mark; (2) has bed and banks; (3) flows at least periodically; and (4) does not lose its character as a watercourse even though it may become braided in a wetland complex.

**SUCCESSION**

Gradual supplanting of one community of plants by another.

**SUPPRESSED (Overtopped) CROWN CLASS**

A tree whose crown is completely overtopped by the crowns of one or more neighboring trees.

**T****TAKE**

To harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, root up, cut, sever, or to attempt to engage in any such conduct upon an animal or plant. This term is used with discussions on endangered and threatened animal or plant species.

**THREATENED SPECIES**

A species likely to become endangered in the foreseeable future throughout all or a significant portion of its range.

**TIMBER HARVESTING**

See "HARVESTING (Logging)."

**TRANSPIRATION**

Evaporation which enter the atmosphere from the soil through plants.

**TURNOUT (BMPs for Water Quality)**

A drainage ditch that drains water away from roads and road ditches.

## U

**UNDERSTORY**

All forest vegetation growing under an overstory.

## V

**VISUAL QUALITY**

A subjective measure of the impact that viewing an object, landscape or activity has on a person's perception of attractiveness.

## W

**WATERBAR**

A shallow trench or diversion dam which diverts roadside ditch and surfacewater runoff from roads (inactive or closed), firebreaks, or skid trails (active or inactive) into a dispersions area. Waterbars are used to minimize erosion and provide conditions for natural or artificial revegetation.

**WATER QUALITY**

The chemical, physical and biological characteristics of water, usually in respect to its suitability for a particular purpose.

**WATERSHED**

The surrounding land area that drains into a lake, river or river system.

**WET LINE**

A line of water or water and chemical fire retardant sprayed along the ground, and which serves as a temporary fireline from which to ignite or stop a low-intensity fire.

**WETLAND**

An area where water is at, near or above the land surface long enough to be capable of supporting aquatic or hydrophytic (water-loving) vegetation and which has soils indicative of wet conditions.

**WILDFIRE**

Uncontrolled fire occurring in forestland, brushland and/or grassland.

**WILDLIFE**

All forms of life that are wild, including plants, animals and microorganisms.

**WINDROW**

Logging debris and unmerchantable woody vegetation that has been piled in rows to decompose or be burned, or the act of constructing these piles.

**WINDTHROW**

A tree or trees uprooted by the wind (also known as "blowdown timber").

## Y

**YARDING**

Method of transport from harvest area to storage landing.

**YIELD**

The amount of wood that may be harvested from a particular type of forest stand by species, site, stocking, and management regime at various ages.

**FINAL NOTE:** Additional forestry definitions can be found in the Wisconsin DNR *Silviculture and Forest Aesthetics Handbook*, 2431.5, by visiting [www.dnr.state.wi.us/org/land/forestry/publications/2431\\_5/index.htm](http://www.dnr.state.wi.us/org/land/forestry/publications/2431_5/index.htm)